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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,627	07/09/2003	Wayne A. Damrau	CPI 40043H	1469

7590

02/01/2006

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EXAMINER

BAREFORD, KATHERINE A

ART UNIT

PAPER NUMBER

1762

DATE MAILED: 02/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/615,627

Applicant(s)

DAMRAU, WAYNE A.

Examiner

Katherine A. Bareford

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-126 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) See Continuation Sheet is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

claims 1-63, 67, 68, 73, 74, 78, 79, 85, 91, 102, 105, 110, 113, 123, 125 are canceled

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Continuation of Disposition of Claims: Claims rejected are 64-66,69-72,75-77,80-84,86-90,92-101,103,104,106-109,111,113-117,119-122 and 124,126.

DETAILED ACTION

1. The amendment of Jan. 19, 2006 has been received and entered.

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Terminal Disclaimer

2. The terminal disclaimer filed on Jan. 19, 2006 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US Patents 5436030, 5789023 and 6319552 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Double Patenting

3. The rejection of claims 64-67, 69-73, 75-77, 79-84, 86-90, 92-101, 103, 104, 106-111, 113-117, 119-122, 124 and 126 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3-7 and 9 of U.S. Patent No. 5,436,030 is withdrawn due to applicant's filing of an acceptable terminal disclaimer as discussed in paragraph 2 above.

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4. The rejection of claims 64-67, 69-73, 75-77, 79-84, 86-90, 92-101, 103, 104, 106, 108-111, 113-117, 119-122, 124 and 126 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3, 4, 6, 9 and 12 of U.S.

Patent No. 5,789,023 is withdrawn due to applicant's filing of an acceptable terminal disclaimer as discussed in paragraph 2 above.

5. The rejection of claims 64-67, 69-73, 75, 76, 79-84, 86-90, 92-93, 96-101, 103, 104, 107-111, 113, 115-117, 119-122, 124 and 126 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 3-7 of U.S.

Patent No. 6,319,552 is withdrawn due to applicant's filing of an acceptable terminal disclaimer as discussed in paragraph 2 above.

Specification

6. The disclosure is objected to because of the following informalities: at page 1, first paragraph, applicant should clarify that application no. 09/953,724 is now US Patent 6592669, application no. 09/371,425 is now US Patent 6319552, application no 076,694 is actually "09/076,694", application no 800,407 is actually "08/800,407", application no. 432,431 is actually "08/432,431", application no. 241,475 is actually "08/241,475" and application no. 943,919 is actually "07/943,919".

Appropriate correction is required.

Claim Objections

7. Claims 64, 98, 106 and 113 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

(1) claim 64, line 4, "the moving surface" should apparently be "the web" as in lines 1-2.

(2) claim 98, line 2, "give" should apparently be "given" for correct spelling.

(3) claim 106, line 6, "and onto and onto" should apparently be "and onto".

(4) Claim 113, as amended in the amendment of Jan. 19, 2006, is missing the following paragraph present in the July 18, 2005 amendment -

"flowing coating liquid along a flow path that includes a generally straight section immediately upstream from at least one portion of the flow path that changes in direction in one direction only and least to a terminal portion of the flow path spaced from and extending towards the web surface in the direction of movement of and at an acute angle to the web surface"

This should be located between lines 2 and 3 of the claim. Since no markings were provided indicating that this paragraph should be deleted, the Examiner understands it to be inadvertently deleted and is examining the case as if this paragraph was present.

Claim Rejections - 35 USC § 112

8. The rejection of claims 68, 74, 78, 85, 91, 102, 105, 112, 118, 123, and 125 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement is withdrawn due to the cancellation of these claims in the Jan. 19, 200⁶~~5~~ amendment.

9. The rejection of claim 75 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention is withdrawn due to applicant's amendments to the claim of Jan. 19, 200⁶~~5~~.

Claims

10. The Examiner understands the term "bounded" when used in regard to the curved surface (as in claim 98, for example), to mean that the surface is enclosed as based on the described conditions in the specification, and the plain meaning of the term "bounded". If applicant disagrees, he should so state on the record. Furthermore, the Examiner further understands the term "unbounded" when used in regard to the curved surface (as in claims 75 and 110, for example) to mean that the surface is unenclosed. If applicant disagrees, he should so state on the record.

Priority

11. The Examiner has reviewed the claims for priority in the specification at page 1, and the Examiner finds that priority only extends back to August 10, 1999. Application 09/371,425 (now US 6319552) with a filing date of August 10, 1999 describes and claims subject matter not present in the next case in the chain of priority (09/076,694, now US 5968270) (the variable width outlet orifice). As a result, priority only extends back to the filing date of 09/371,425. See MPEP 2133.01.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 64, 65, 69, 70, 75-77, 81-84, 86, 87, 92-96, 113-117, 119-120, 122, 124 and 126 are rejected under 35 U.S.C. 102(b) as being anticipated by Ueberschar et al (US 5785253) (hereinafter Ueberschar '253).

Ueberschar '253 teaches a method of applying coating liquid onto a surface of a web moving in a given direction. Figure 5 and column 8, line 55 through column 9, line 30. Coating liquid is introduced under pressure onto a concave curved surface that curves towards the moving surface and has a terminal portion spaced from and extending toward the web surface in the direction of movement and at an acute angle to

the web surface. Figure 5 and column 9, lines 15-30 (the liquid would be under pressure as it moves upwards, for example). The coating liquid is flowed along the concave curved surface to form a sheet of coating liquid. Figure 5 and column 9, lines 15-30. This subjects the coating liquid to centrifugal force to concentrate coating liquid towards one side of the coating liquid sheet that is towards the concave curved surface, as all that is required for this to occur is the flow on the curved surface. The coating liquid is redirected for flow in the direction of movement of the web surface. Figure 5 and column 9, lines 15-30. The coating liquid sheet is directed from the terminal portion toward and in the direction of movement of an at an acute angle relative to the web surface to contact the web surface with the one side of the coating liquid sheet that was towards the curved surface to apply onto the web surface a layer of coating liquid. Figure 5 and column 9, lines 15-30. The coating liquid is doctored on the web surface. Figure 5 and column 9, lines 15-30.

Claim 65, 82, 83, 116: the directing step operates to contact the web surface with the one side of the coating liquid sheet that was towards the curved surface while maintaining an opposite side of the coating liquid sheet that was away from the curved surface out of substantial contact with the web surface. Figure 5 and column 9, lines 15-30 (from the direction of flow).

Claim 69, 86: the coating liquid is flowed under pressure through a passage extending in a direction against the direction of movement of the web surface. Figure 5 and column 9, lines 15-30. The introducing step flows coating liquid from the passage

under pressure onto the concave curved surface in a direction against the direction of movement of the web surface. Figure 5 and column 9, lines 15-30.

Claim 70, 87, 95, 96: the concave curved surface curves in one direction only.

Figure 5. The curved section is preceded by a straight section of the path. Figure 5.

Claim 75, 92: the concave curved surface is unbounded. Figure 5.

Claim 76, 93: the curved surface has an arcuate extent of less than 90 degrees.

Figure 5.

Claim 77, 94: the flow is also onto a straight surface between the curved surface and the terminal portion. Figure 5.

Claim 81: Ueberschar '253 teaches a method of applying coating liquid onto a surface of a web moving in a given direction. Figure 5 and column 8, line 55 through column 9, line 30. Coating liquid is flowed along a flow path that includes a concave curved surface that curves towards the web surface and has a terminal portion spaced from and extending toward the web surface in the direction of movement and at an acute angle to the web surface. Figure 5 and column 9, lines 15-30. The coating liquid is flowed along the concave curved surface to form a sheet of coating liquid. Figure 5 and column 9, lines 15-30. This subjects the coating liquid to centrifugal force to cause air in the coating liquid sheet to move away from one side of the coating liquid sheet that is towards the concave curved surface and towards an opposite side of the sheet that is remote from the concave curved surface and to cause coating liquid to move and concentrate towards one side of the coating liquid sheet, as all that is required for this to

occur is the flow on the curved surface. The coating liquid is redirected for flow in the direction of movement of the web surface. Figure 5 and column 9, lines 15-30. The coating liquid sheet is directed from the terminal portion toward and in the direction of movement of an at an acute angle relative to the web surface to contact the web surface with the one side of the coating liquid sheet that was towards the curved surface to apply onto the web surface a layer of coating liquid. Figure 5 and column 9, lines 15-30. The coating liquid is doctored on the web surface. Figure 5 and column 9, lines 15-30.

Claim 84: the flowing step comprises flowing liquid under pressure onto the concave curved surface. Figure 5 and column 9, lines 15-30 (the upward direction means the flow would be under pressure, for example).

Claim 113: Ueberschar '253 teaches a method of applying coating liquid onto a surface of a web moving in a given direction. Figure 5 and column 8, line 55 through column 9, line 30. Coating liquid is flowed along a flow path that includes a generally straight section immediately upstream from at least one portion of the flow path that changes in one direction only and leads to a terminal portion of the path spaced from an extending toward the web surface in the direction of movement and at an acute angle to the web surface. Figure 5 and column 9, lines 15-30. The coating liquid is flowed along the concave curved surface to form a sheet of coating liquid. Figure 5 and column 9, lines 15-30. This subjects the coating liquid to centrifugal force to concentrate coating liquid towards one side of the coating liquid sheet that is towards the concave curved surface, as all that is required for this to occur is the flow on the curved surface. The

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coating liquid sheet is directed from the terminal portion toward and in the direction of movement of an at an acute angle relative to the web surface to contact the web surface with the one side of the coating liquid sheet that was towards the curved surface to apply onto the web surface a layer of coating liquid. Figure 5 and column 9, lines 15-30.

Claim 114: in the flow path all portions are either straight or change in one direction only. Figure 5 and column 9, lines 15-30.

Claim 115, 119: the flow path has a curved portion. Figure 5 and column 9, lines 15-30.

Claim 117, 124: the coating liquid on the web surface is doctored. Figure 5 and column 9, lines 15-30.

Claim 120: a concave curved portion is provided. Figure 5 and column 9, lines 15-30.

Claim 121: the concave portion can be unbounded. Figure 5 and column 9, lines 15-30.

Claim 126: the liquid can be flowed on the straight section, etc. under pressure. Figure 5 and column 9, lines 15-30.

14. Claims 98-101, 103, 104, 106, 108 and 111 are rejected under 35 U.S.C. 102(B) as being anticipated by DE 196 51 739 (hereinafter '739)

**** The Examiner notes that Ueberschar et al (US 6001179) (hereinafter Ueberschar '179), which is the US filing of '739, has been used as a translation. Column and line references are thus to Ueberschar '179) ***.

'739 teaches a method of applying coating onto a surface of a web moving in a given direction. Figure 2 and column 4, lines 40-50. Coating liquid is flowed along an elongate bounded concave curved surface that is positioned proximate to, spaced from and transversely of the web surface. Figure 2 and column 7, lines 15-40 and column 6, lines 1-30. This subjects the coating liquid to centrifugal force that causes air that may be in the coating liquid to move away from the concave curved surface and coating liquid to move and concentrate towards the concave curved surface, as that is required for this to occur this the flow on the curved surface. The coating liquid, after it has flowed along the curved surface is directed in a free standing elongate jet curtain of coating liquid towards, across and against the web surface to contact the web surface primarily with one side of the jet curtain of coating liquid that was towards the curved surface to apply an excess layer of coating liquid onto the web surface. Column 7, lines 15-40 and figure 2.

Claim 99, 100: the flowing and directing steps flow coating liquid put the side of the coating that was towards the curved surface onto the web and keeps the other side away from the web. Figure 2.

Claim 101, 104: the coating liquid is doctored on the web surface. Column 6, lines 25-30.

Claim 103: upon being directed to towards the moving surface, coating liquid at the one side of the jet curtain flows substantially towards the moving surface and flows against and remains on the moving surface. Figure 2.

Claim 106: the flow step delivers coating liquid under pressure to an elongate nozzle. Figure 2 and column 6, lines 1-30 and column 7, lines 15-40. Coating liquid is emitted from the nozzle in an elongate sheet of coating liquid. Figure 2 and column 6, lines 1-30 and column 7, lines 15-40. The elongate sheet is flowed along an elongate straight surface and then under pressure off of the straight surface and onto and along the elongate curved surface. Figure 2 and column 6, lines 1-30 and column 7, lines 15-40.

Claim 108: the curve surface has an arcuate extent of no more than 90 degrees. Figure 2.

Claim 111: the coating liquid is flowed along a straight surface immediately prior to flowing on the curved surface. Figure 2. The curved surface curves in one direction only. Figure 2.

15. The rejection of claims 64-66, 75, 76 and 80 under 35 U.S.C. 102(b) as being anticipated by Isayama et al (US 4299188) is withdrawn due to applicant' amendments of January 19, 2006.

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 66, 71, 72, 80, 88-90, 97 and 121 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueberschar '253 as applied to claims 64, 65, 69, 70, 75-77, 81-84, 86, 87, 92-96, 113-117, 119-120, 122, 124 and 126 above, and further in view of DE 196 51 739 (hereinafter '739).

**** The Examiner notes that Ueberschar et al (US 6001179) (hereinafter Ueberschar '179), which is the US filing of '739, has been used as a translation. Column and line references are thus to Ueberschar '179) ***.

Ueberschar '253 teaches all the features of these claims except (1) that the coating liquid at the one side of the sheet flows substantially only towards the web surface (claim 66), (2) the bounding of the concave surface (claim 71, 88-90), (3) that there is no return to the terminal portion (claim 80, 97, 121).

However, '739 teaches a method of applying coating onto a surface of a web moving in a given direction. Figure 2 and column 4, lines 40-50. Coating liquid is flowed along an elongate bounded concave curved surface that is positioned proximate to, spaced from and transversely of the web surface. Figure 2 and column 7, lines 15-40 and column 6, lines 1-30. This subjects the coating liquid to centrifugal force that causes

air that may be in the coating liquid to move away from the concave curved surface and coating liquid to move and concentrate towards the concave curved surface, as that is required for this to occur this the flow on the curved surface. The coating liquid, after it has flowed along the curved surface is directed in a free standing elongate jet curtain of coating liquid towards, across and against the web surface to contact the web surface primarily with one side of the jet curtain of coating liquid that was towards the curved surface to apply an excess layer of coating liquid onto the web surface. Column 7, lines 15-40 and figure 2. The flowing and directing steps flow coating liquid put the side of the coating that was towards the curved surface onto the web and keeps the other side away from the web. Figure 2. Upon being directed to towards the moving surface, coating liquid at the one side of the jet curtain flows substantially towards the moving surface and flows against and remains on the moving surface. Figure 2.

VB It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ueberschar '253 to provide that the coating liquid at the one side of the sheet flows substantially only towards the web surface, the bounding of the concave surface, and that there is no return to the terminal portion as suggested by '739 with an expectation of desirable application of coating, because Ueberschar '253 teaches a method of coating with flow over a concave surface followed by jetting the coating to a moving web, and '739 teaches that when coating with flow over a concave surface followed by jetting the coating to a moving web, it is desirable that the coating

✓ liquid at the one side of the sheet flows substantially only towards the web surface, the bounding of the concave surface, and that there is no return to the terminal portion.

18. Claims 107 and 109 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 196 51 739 (hereinafter '739).

**** The Examiner notes that Ueberschar et al (US 6001179) (hereinafter Ueberschar '179), which is the US filing of '739, has been used as a translation. Column and line references are thus to Ueberschar '179) ***.

'739 teaches all the features of these claims, as discussed in the 35 USC 102(b) rejection using '739, except (1) the air removal and (2) the curved surface radius.

It is the Examiner's position that it is well known in the art of coating moving webs to remove air from coating to be applied to prevent foaming. If applicant disagrees, he should so state on the record.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify '739 to removal air from the coating with an air removal prior to the coating process, so as to prevent foaming with an expectation of desirable application of coating, because '739 teaches a method of coating with flow over a concave surface followed by jetting the coating to a moving web, and it is well known to treat coating to remove air prior to coating so as to prevent foaming. It would further have been obvious to perform routine experimentation to optimize the size of the curved surface radius when coating with the process of '739, because '739 teaches that

various measurements of the device are to be optimized including the length L of the guide surface and the angle of curvature and the radius of curvature (see column 7, line 25 through column 8, line 60), thus indicating that the overall measurements of the device need to be optimized to correspond to the other measurements.

Response to Arguments

19. Applicant's arguments with respect to the claims rejected above have been considered but are moot in view of the new ground(s) of rejection.

After further review the claims have been rejected using Ueberschar '253 and '739 as discussed above due to priority issues as to the effective filing date of the present application.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine A. Bareford whose telephone number is (571) 272-1413. The examiner can normally be reached on M-F(6:00-3:30) with the First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and for After Final communications.

Other inquiries can be directed to the Tech Center 1700 telephone number at (571) 272-1700.

Furthermore, information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


KATHERINE BAREFORD
PRIMARY EXAMINER